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EXAMINER

LEE, SEUNG H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2876

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,586

Applicant(s)

JOHNSON, ROBERT D.

Examiner

Seung H Lee

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 and 43-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 and 43-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. Receipt is acknowledged of the response filed on 20 February 2003, which has been entered in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4-8, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cullis et al. (US 4,305,640)(hereinafter referred to as 'Cullis').

Cullis teaches an illumination system comprising a laser (1) serving as a light source generating a radiation, a light pipe (3) is located between the laser and substrate (4) wherein the light pipe is bended (8), a light beam is passing through the glass diffuser (6), the pipe can be coated for maximum reflection of the light (see Figs. 1 and 2; col. 2, line 4-col. 4, line 17).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullis in view of Friedman et al. (US 5,290,169, cited by applicant)(hereinafter referred to as 'Friedman').

The teachings of Cullis have been discussed above.

In addition to the teachings of Cullis as discussed above, he also teaches the light pipe (3) can be any suitable size and circular or other cross-sectional section (see col. 3, lines 34-39).

Friedman teaches the light guide (12) having a different cross-sectional section such as polygonal (see Figs. 5-7; col. 4, line 49-col. 5, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Friedman to the teachings of Cullis in order to control the uniformity of luminance exiting the light pipe. Moreover, such modification would uniform the intensity of the output light. Furthermore, such modification (i.e., light pipe having a polygonal cross section) would have been an obvious design variation, failing to provide any unexpected results, well within the ordinary skill in the art, and therefore an obvious expedient.

6. Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullis in view of Friedman.

The teachings of Cullis/Friedman have been discussed above.

Although, Cullis/Friedman teaches the illumination system for optical analysis for sample, they fail to particularly teach the particular range of the standard deviation and signal-to-noise ratio.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Cullis as modified by Friedman in order to adjust the spatial distribution of radiation, angular distribution of radiation, and the signal-to-noise value, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233, and therefore an obvious expedient.

7. Claims 20-29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cullis in view of Friedman.

The teachings of Cullis/Friedman have been discussed above.

In addition to the teachings of Friedman as discussed above, he also teaches the light guide (12) serving as the light pipe in which the light guide is composed of solid glass material, and the cross-sectional area at any given one point of the light guide vary in shape with a second cross-sectional area taken at a second point (see Figs. 5; Abstract; col. 2, line 59- col. 5, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Friedman to the teachings of Cullis in order to control the uniformity of luminance exiting the light pipe. Moreover, such

Art Unit: 2876

modification would uniform the intensity of the output light. Furthermore, such modification (i.e., the light pipe having a polygonal cross section and the light pipe having a S-shaped) would have been an obvious design variation, failing to provide any unexpected results, well within the ordinary skill in the art, and therefore an obvious expedient.

8. Claims 30, 32- 41, 43-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullis in view of Meier (US 4,669,878).

The teachings of Cullis have been discussed above.

In addition to the teachings of Cullis as discussed above, he also teaches the light pipe (3) can be any suitable size and circular or other cross-sectional section (see col. 3, lines 34-39). However, Cullis fairly suggests that the sample source having an analyte.

Meier teaches an automated chemistry testing system for analyzing a cell (97) wherein the testing system comprising a halogen lamp (81), a wavelength calibrator (13) for adjusting the wavelength of the radiation, a grating (91) for concentrating radiation, channeling of the radiation via several fiber-optical pathways (21-24) using a mirrors (86 and 93) and a lens (92), filter (83) for allowing passing of the light within the particular wavelength (see Figs. 1 and 2; col. 2, line 57- col. 4, line 21; col. 4, line 33- col. 8, line 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Meier to the teachings of Cullis in

Art Unit: 2876

order to provide an improved system wherein the system can analyze the serum cell by controlling the intensity and the wavelength of the light beam. Moreover, such modification would provide a precise means for separating light into the particular wavelength wherein the particular wavelength only interfacing with corresponding particular samples therewith. Furthermore, such modification (i.e., the light pipe having a polygonal cross section and the light pipe having a S-shaped) would have been an obvious design variation, failing to provide any unexpected results, well within the ordinary skill in the art, and therefore an obvious expedient.

Although, Cullis as modified by Meier fairly suggest that the particular range of the wavelength and prediction error of clinical significance, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Cullis as modified by Meier in order to adjust the wavelength calibrator to adjust the wavelength, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233, and therefore an obvious expedient.

Although, Cullis as modified by Meier fairly suggest that the sample is biological tissue, human appendage, glucose, and alcohol, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does

Art Unit: 2876

not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

9. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cullis Meier as applied to claim 30 above, and further in view of Friedman.

The teachings of Cullis/Meier have been discussed above.

Although, Cullis/Meier teach the illumination device having a halogen lamp, they fail to teach or fairly suggest that the light source is a tungsten-halogen lamp.

However, Friedman teaches a tungsten halogen lamp (510) to produce a visible light (see Figs. 1 and 2; col. 2, line 59- col. 3, line 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Friedman to the teachings of Cullis/Meier in order to provide a user-friendly system since operator(s)/user(s) can aim/adjust the spectrometer with the visible light of tungsten halogen lamp for focusing accurately on the sample or confirming the successful reading of the sample, and therefore an obvious expedient.

Response to Arguments

10. Applicant's arguments with respect to claims 1-41 and 43-53 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2876

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure;

Endo [US 5,051,901], Negahdaripour et al. [US 6,236,459] disclose a measuring device and using of the same.

4,897,534] disclose an integrated circuit and a method for producing the same.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Seung H. Lee whose telephone number is (703) 308-5894. The examiner can normally be reached on Monday to Friday from 7:30 AM to 4:00 PM.


If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (703) 305-3503. The fax-phone number for this group is (703) 308-5841 or (703) 308-7722.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [michael.lee@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Art Unit: 2876

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.


Seung H. Lee
Art Unit 2876
May 5, 2003


MICHAEL G. LEE
SUPERVISORY PATENT EXAMINER
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